

Risk Factors for Sporadic *Campylobacter* Infections in the United States: A Case-Control Study on FoodNet Sites

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Background: *Campylobacter* is the most common cause of bacterial gastroenteritis in the United States. The majority of *Campylobacter* infections are not related to outbreaks, but occur as sporadic individual infections. We conducted a case-control study to determine risk factors for sporadic *Campylobacter* infections.

Methods: We enrolled patients with culture-confirmed *Campylobacter* infections from Foodborne Diseases Active Surveillance Network (FoodNet) sites in California, Georgia, Maryland, Minnesota, New York and Oregon. Information about demographics, clinical illness, and exposures occurring within 7 days before diarrhea onset was collected using a standardized questionnaire. By using random-digit dialing, we interviewed one age-group matched, site-matched community control for each patient.

Results: From January 1, 1998, to March 1, 1999, 1463 patients and 1317 controls were enrolled in the study. The median age of patients and controls was 35 years (range, 1. mo. 96 years), 46% of patients vs. 67% of controls were female (matched odds ratio [mOR] 0.44, 95% confidence interval [CI] 0.4-0.5). In preliminary univariate analysis, foreign travel was strongly associated with illness (13% patients vs. 1.4% of controls, mOR 10.4, 95% CI 6.2-17.4). Among persons with no foreign travel the following exposures were significant risk factors for infection: eating undercooked poultry (7% patients vs 4% controls, mOR 1.9, 95% CI 1.3-2.9), eating chicken or turkey that was cooked outside the home (46% patients vs 28% controls, mOR 2.4, 95% CI 2.0-2.9), eating non-poultry meat that was cooked outside the home (51% patients vs 34% controls, mOR 2.2, 95% CI 1.1-2.7), eating raw seafood (5% patients vs. 3% controls, mOR 1.8, 95% CI 1.1-2.7), drinking raw milk (2% patients vs 1% controls, mOR 3.5, 95% CI 1.4-8.7), living or visiting a farm (16% patients vs. 9% controls, mOR 2.1, 95% CI 1.6-2.8), having contact with farm animals (11% patients vs. 5% controls, mOR 2.2, 95% CI 1.5-3.1) and having contact with puppies (11% patients vs. 6% controls, 2.0, 95% CI 1.5-2.8). Eating chicken or turkey cooked in the home was a protective factor (53% patients vs. 69% controls, mOR 0.5, 95% CI 0.4-0.6).

Conclusion: Preliminary analysis suggests that foreign travel is an important risk factor for sporadic *Campylobacter* infections in the United States. Risk factors for domestically acquired *Campylobacter* infections identified in this study, such as consumption of undercooked poultry and raw milk and contact with farm animals and puppies confirm findings of previous studies. However, consumption of raw seafood has infrequently been identified and merits further investigation.

Suggested citation:

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